

**CLEAN COPY OF CLAIMS:** *The following is a list of all claims in the application with their status and the text of all active claims, in clean copy format.*

1.-203. (CANCELED)

204. ( NEW) A method to allow a user of a local computer to access a remote computer file with a remote application, the method comprising:

- (a) providing a computer server system connected to a communications network;
- (b) the server system detecting the activation by the user of a hyperlink associated with the computer file;
- (c) operating on said computer server system at least one application program that is compatible with or capable of loading and operating upon said computer file, and that has a graphical user interface;
- (d) opening the computer file in the application program; and
- (e) operating a thin client of the terminal emulation type on the local computer, the thin client displaying the graphical user interface of said application program to said user and allowing the user to provide input to the application program running on the remote computer; and
- (f) restricting said recipient user's access to and manipulation of the computer file, wherein said file access and manipulation restrictions comprise restrictions that are selected from the group consisting of:
  - (1) whether the computer file may be accessed;
  - (2) a number of times the computer file may be accessed;
  - (3) a time period during which the computer file may be accessed;

- (4) whether the computer file may be printed locally;
- (5) whether the computer file may be saved onto said remote recipient user computing device;
- (6) whether the computer file or portions thereof may be copied onto the local computer memory clipboard of the remote recipient user computing device;
- (7) whether, after alteration by said recipient user, the computer file or portions thereof may be saved onto said computer server system, whereby the original copy of said data file is replaced by the altered file, and said application file hyperlink is now associated with said altered file, and
- (8) whether, after alteration by said recipient user, the computer file or portions thereof may be saved onto said computer server system, whereby the original copy of said data file is not replaced by the altered file and remains on the storage system of said server system,

whereby control and protection of the computer file is retained, while providing simple and easy access to the user via said server based applications delivered via thin client.

205. ( NEW) The method of claim 204, wherein the hyperlink points to a network location or address associated with metadata identifying the computer file.

206. ( NEW) The method of claim 204, wherein the application program is selected after the activation of the hyperlink is detected.

207. ( NEW) The method of claim 204, wherein the application program is selected from a plurality of application programs based on selection criteria comprising criteria chosen from the group consisting of:

- (a) legal rights of the user to use the application programs;
- (b) capabilities of the application programs; and

(c) properties that are associated with the hyperlink.

208. ( NEW) A method for handling incoming emails at an email gateway comprising:

- (a) identifying a data file attachment on an incoming email addressed to a recipient;
- (b) creating a copy of the identified attachment on a storage device accessible by the email gateway;
- (c) creating a reference or hyperlink associated with the attachment copy;
- (d) deleting the attachment from the incoming email and adding said hyperlink to the email;
- (e) operating on a remote computer remote from the recipient an application program associated with and compatible with the attachment copy;
- (f) opening the attachment copy in the application program running on the computer remote from the recipient upon activation of the hyperlink; and
- (g) operating a thin client on a local computer used by the recipient, the thin client allowing the recipient to provide input to and receive output from the application program running on the remote computer,
- (h) setting variable restrictions on the access to and manipulation of said attachment copy file, wherein said restrictions comprise restrictions selected from the group consisting of:
  - (1) whether said attachment copy may be accessed; and
  - (2) access restrictions based upon a security level associated with the recipient,

whereby the email attachment cannot pose a virus danger to said local computer since it is manipulated remotely, and whereas the local computer has no need of a compatible program to open said attachment.

209. ( NEW) A method for handling outgoing emails at an email gateway comprising:

- (a) identifying a data file attachment on an outgoing email addressed to a recipient;
- (b) creating a copy of the identified attachment on a storage device accessible by the email gateway;
- (c) creating a hyperlink associated with the attachment copy;
- (d) replacing the identified attachment in the outgoing email with the hyperlink;
- (e) forwarding the outgoing email with the hyperlink to the recipient;
- (f) detecting an activation of the hyperlink by the recipient;
- (g) operating on a remote computer remote from the recipient an application program compatible with said attachment copy or file;
- (h) opening said attachment copy in said application program; and
- (i) operating a thin client on a local computer used by the email recipient, the thin client allowing the recipient to provide input to and receive output from said application program,
- (j) setting variable restrictions on the access to and manipulation of said attachment copy file, wherein said restrictions comprise restrictions selected from the group consisting of:
  - (1) whether said attachment copy may be accessed; and
  - (2) access restrictions based upon a security level associated with the recipient,

whereby control and protection of outgoing data attachments is retained by removing said data from outgoing emails, while giving appropriate access to recipients via server based applications delivered via thin client.

210. ( NEW) The method of claim 209, further comprising the step of setting a variable level of access restrictions based upon a security level associated with the identified attachment, whereby attachment access can be varied according to the sensitivity of a particular attached document.

211. ( NEW) An application server comprising:

- (a) a network interface to communicate over a computer network;
- (b) at least one processing unit for running software programs and components;
- (c) an application remote operation enabling program capable of operating an application program which has a GUI and transmitting the GUI of said application program in a terminal emulation mode to a thin client operating on a remote computer, and providing remote interaction with the application program via the thin client over the computer network;
- (d) a storage device containing a computer file;
- (e) an association component that associates a hyperlink with the computer file;
- (f) a listener component that detects an activation of the hyperlink over the computer network by the remote computer;
- (g) an initiator component that, upon detection of the hyperlink activation, opens the computer file in said application program and transmits the graphical user interface of said application program to the thin client operating on the remote computer; and
- (h) a restriction component that restricts the remote computer's access to and manipulation of the computer file, wherein said file access and manipulation restrictions comprise restrictions selected from the group consisting of:
  - (1) whether the computer file may be accessed;
  - (2) a number of times the computer file may be accessed;

- (3) a time period during which the computer file may be accessed;
- (4) whether the computer file may be printed locally;
- (5) whether the computer file may be saved onto said remote recipient user computing device;
- (6) whether the computer file or portions thereof may be copied onto the local computer memory clipboard of the remote recipient user computing device;
- (7) whether, after alteration by said recipient user, the computer file or portions thereof may be saved onto said computer server system, whereby the original copy of said data file is replaced by the altered file, and said application file hyperlink is now associated with said altered file, and
- (8) whether, after alteration by said recipient user, the computer file or portions thereof may be saved onto said computer server system, whereby the original copy of said data file is not replaced by the altered file and remains on the storage system of said server system,

whereby control and protection of the computer file is retained, while giving appropriate access to recipients via said server based applications delivered via thin client.

212. ( NEW) The application server of claim 211, wherein the at least one processing unit is selected from the group consisting of:

- (a) a single server;
- (b) a personal computer; and
- (c) multiple, separate computers operating as a single, logical server.

213. ( NEW) A method comprising the steps of:

- (a) providing a computer server system which is connected to a communications network and which contains executable code of at least one server based computer application which operates natively with a graphical user interface,
- (b) providing an application hyperlink that is associated with said server based application,
- (c) providing a computing device to at least one recipient user which is connected to said communications network,
- (d) providing computer software executable code on the recipient user's computing device that activates said application hyperlink,
- (e) providing computer software executable code on said computer server system which detects the activation of the hyperlink by said recipient user's computing device, and
- (f) providing computer software executable code on said computer server system which selects and launches said server based computer application,
- (g) providing computer software executable code on said computer server system which transmits the graphical user interface of said server based computer application to said recipient user's computing device in a terminal emulation mode, and receives inputs to said graphical user interface from the user; and
- (h) providing thin client computer software executable code on said recipient's computer which receives and displays said graphical user interface from said computer server system, and transmits the inputs of said recipient user back to the server based application,
- (i) providing computer software executable code on said computer server system which sets variable restrictions on the operation of said server based computer application, wherein said restrictions comprise restrictions selected from the group consisting of:
  - (1) whether said server based computer application may be accessed; and

- (2) access restrictions based upon a security level associated with the recipient.

214. (NEW) The method of claim 213, comprising the additional steps of:

- (a) providing computer software executable code on said computer server system for creating said application hyperlink; and
- (b) transmitting said application hyperlink to said at least one recipient user.

215. (NEW) The method of claim 213, wherein said server based computer application comprises a first communications program or application.

216. (NEW) The method of claim 215, comprising providing a second communications program or application hyperlink to said program to at least one additional user which is compatible with or capable of communicating with said first communications program; and further configuring at least one of said first of second communications programs with the communications address of the other communications program.

217. (NEW) The method of claim 216, wherein said first and second communications program or application comprises programs selected from the group consisting of:

- (a) an email program;
- (b) an instant messaging program;
- (c) a voice over internet protocol program;
- (d) a video conferencing program; and
- (e) an internet relay chat application.

218. (NEW) The method of claim 213, wherein said server based computer application comprises a computer visual interface desktop work area, and further comprising the steps of:

- (a) operating at least one native software server based application and



- (b) providing access to or links to said one or more native software server based applications within said computer visual interface desktop work area.

219. ( NEW) The method of claim 218, wherein said native software applications comprise applications selected from a group consisting of:

- (a) an email program,
- (b) an instant message program,
- (c) stock quote program,
- (d) news delivery program,
- (e) weather delivery program,
- (f) a group scheduling program,
- (g) a data file storage program; and
- (h) a calendar program.

220. ( NEW) The method of claim 218 used in conjunction with a commercial service, further comprising providing access to said computer visual interface desktop to subscribers of said commercial service,

whereby said application hyperlink recipient may utilize said visual interface desktop.

221. ( NEW) A method to allow remote users to access computer files with server based applications by activating a hyperlink, the method comprising:

- (a) providing a computer server system connected to a communications network, the server system having access to at least one computer file and to executable code for at least one file compatible server based application which operates natively with a graphical user

interface, the at least one application being adapted to open said at least one computer file;

- (b) providing an application file hyperlink that is associated with said at least one computer file;
- (c) providing at least one remote recipient user computing device to at least one hyperlink recipient user;
- (d) providing computer software executable code on said at least one remote recipient user computing device which is connected to said communications network for activating said application file hyperlink over said communications network;
- (e) providing computer software executable code on said computer server system which detects the activation of the hyperlink by said hyperlink recipient user over said communications network;
- (f) providing a thin client application or program on said at least one remote recipient user computer adapted to receive and display said graphical user interface of said file compatible server based computer application in a terminal emulation mode, and accept and transmit inputs of said user back to the server based application;
- (g) providing computer software executable code on said computer server system adapted to select and start said file compatible server based computer application in a user session;
- (h) providing computer software executable code on said computer server system which opens said computer file in said file compatible server based computer application;
- (i) providing computer software executable code on said computer server system for transmitting the graphical user interface of said file compatible server based computer application to the at least one remote recipient user computer in a terminal emulation mode and to receive inputs to said interface from the at least one hyperlink recipient user; and

- (j) providing computer software executable code on said computer server system which restricts said recipient user's access to and manipulation of said at least one computer file, wherein said file access and manipulation restrictions comprise restrictions selected from the group consisting of:
- (1) whether the data file may be accessed;
  - (2) a number of times the data file may be accessed;
  - (3) a particular time period during which the file may be accessed;
  - (4) whether said hyperlink recipient user may print the data file locally;
  - (5) whether said hyperlink recipient user may save said first data file locally onto said remote recipient user computing device;
  - (6) whether said data file or portions thereof may be copied onto the local computer memory clipboard of the remote recipient user computing device;
  - (7) whether, after alteration by said recipient user, said data file or portions thereof may be saved onto said computer server system, whereby the original copy of said data file is replaced by the altered file, and said application file hyperlink is now associated with said altered file, and
  - (8) whether, after alteration by said recipient user, said data file or portions thereof may be saved onto said computer server system, whereby the original copy of said data file is not replaced by the altered file and remains on the storage system of said server system.

222. ( NEW) The method of claim 221, further comprising the step of providing computer software executable code for creating said application file hyperlink and associating the hyperlink with said at least one computer file.

223. ( NEW) The method of claim 222, wherein the graphical user interface of said hyperlink generation computer software executable code comprises a web page form.

224. ( NEW) The method of claim 221, further comprising the step of transmitting said application file hyperlink to said at least one hyperlink recipient user.

225. ( NEW) The method of claim 224, wherein the hyperlink transmission means comprise means selected from the group consisting of:

- (a) an email message;
- (b) an instant messaging application;
- (c) a hyperlink embedded in a web page;
- (d) a telephone;
- (e) an appropriately formatted document or file; and
- (f) a pager.

226. ( NEW) The method of claim 221, wherein said communications network comprises an internet.

227. ( NEW) The method of claim 221, wherein said communications network comprises a local area network.

228. ( NEW) The method of claim 221, wherein said hyperlink comprises a uniform resource locator.

229. ( NEW) The method of claim 221, further comprising:

- (a) disassociating said application file hyperlink from said at least one computer file; and
- (b) associating said application file hyperlink with at least one different computer file.

230. ( NEW) The method of claim 221, additionally comprising the step of modifying the application interface capability function settings of said file compatible server based computer application.

231. ( NEW) The method of claim 221, wherein the recipient user computer comprises a type selected from the group consisting of:

- (a) a personal computer;
- (b) a personal digital assistant;
- (c) a web or internet appliance device; and
- (d) a television set top box.

232. ( NEW) The method of claim 221, wherein said at least one file compatible server based application is comprises a partially disabled file compatible server based application.

233. ( NEW) The method of claim 221, wherein said thin client application comprises a partially disabled thin client application.

234. ( NEW) The method of claim 221, wherein said file access and manipulation restrictions comprise restrictions which are selected based upon variables selected from the group consisting of:

- (a) the identity of said hyperlink recipient user;
- (b) the network address of said hyperlink recipient user;
- (c) whether a qualifying action has been performed by said recipient user; and
- (d) whether authentication information has been provided by said hyperlink recipient user.

235. ( NEW) The method of claim 234, wherein said authentication information comprises criteria selected from the group consisting of:

- (a) a password;
- (b) the network address of said hyperlink recipient user;
- (c) a digital signature, and
- (d) information provided via the HTTP authentication protocol.

236. ( NEW) The method of claim 234, wherein said qualifying action is comprises accepting an agreement.

237. ( NEW) The method of claim 236, wherein said agreement obligates the recipient user to limit disclosure of the content of said data file.

238. ( NEW) The method of claim 236, wherein said agreement is a license agreement.

239. ( NEW) The method of claim 221, further comprising:

- (a) providing executable code on said computer server system for producing a computer visual interface desktop work area,
- (b) providing access to or links to said file compatible application on the visual interface desktop,
- (c) providing access to or links to zero or more additional applications on the visual interface desktop,
- (d) providing access to or links to said at least one computer file or document on the visual interface desktop; and

wherein said thin client means on said at least one remote recipient computer are adapted to receive and display said computer visual interface desktop work area.

240. ( NEW) The method of claim 221, further comprising:

- (a) after detecting said hyperlink activation, assigning a guest account to said recipient user;  
and
- (b) creating a copy of said at least one computer file in the guest account; and
- (c) opening the file copy in said file compatible server based application instead of the original computer file.

241. ( NEW) The method of claim 240, wherein the guest account is created after detecting said hyperlink activation.

242. ( NEW) The method of claim 240, further comprising the step of terminating the remote application access session, and after said termination either:

- (a) deleting said guest account, or
- (b) returning said guest account to available status.

243. ( NEW) The method of claim 240, further comprising the step of predefining a plurality of guest accounts, and further wherein one of the predefined guest accounts is assigned to the user after hyperlink activation.

244. ( NEW) The method of claim 221, wherein said at least one computer file comprises a first computer file and at least one additional computer file, and wherein said application file hyperlink is associated with both the first and the additional computer files, and further comprising:

- (a) operating on a remote computer at least one application program which is compatible with or capable of opening each of said computer files;
- (b) opening each computer file in said application program; and
- (c) transmitting the graphical user interface of said at least one application program to said thin client program in a terminal emulation mode.

245. ( NEW) The method of claim 221, further comprising providing means for at least one additional user using at least one additional remote user computing device to view and optionally interact with the interface of said file compatible server based computer application in a terminal emulation mode, whereby the additional user and the first hyperlink recipient user may engage in simultaneous collaboration over said file or document.

246. ( NEW) The method of claim 221, wherein said method is provided by an entity as a service and further comprising the step of providing subscription means associated with said service whereby a remote hyperlink recipient user who is not a subscriber of said entity is solicited to subscribe to said service.

247. ( NEW) The method of claim 221, wherein a log of data about accesses to said computer file is kept on said computer server system.

248. ( NEW) The method of claim 221, further comprising notifying at least one designated user who is not said least one remote recipient user upon the occurrence of a hyperlink access event.

249. ( NEW) The method of claim 248, wherein said notification utilizes transmission means selected from the group consisting of:

- (a) an email application;
- (b) an instant message application;
- (c) a telephone; and
- (d) a pager.

250. ( NEW) The method of claim 248, wherein said notification includes data about said hyperlink access event.

251. ( NEW) The method of claim 250, wherein said data comprises data selected from the group consisting of:



- (a) details about said hyperlink recipient user;
- (b) the time of activation of said application file hyperlink;
- (c) information about said file associated with said application file hyperlink;
- (d) the network location of said hyperlink recipient user;
- (e) information about any changes to said data file.

252. (NEW) The method of claim 248, wherein said hyperlink access events comprise events that are selected from the group consisting of:

- (a) hyperlink activation;
- (b) file access; and
- (c) file alteration.

253. ( NEW) The method of claim 221, wherein said computer server system comprises a computing machine configuration selected from the group consisting of:

- (a) a single server;
- (b) a personal computer;
- (c) multiple, separate computers operating as a single, logical server.

254. (NEW) The method of claim 253, wherein one of said multiple, separate computers operating as a single, logical server comprises a computer operating as an application server.

255. (NEW) The method of claim 253, wherein one of said multiple, separate computers operating as a single, logical server comprise a computer operating as a file server.

256. ( NEW) The method of claim 221, wherein the computer software executable code which detects the execution of the hyperlink by said hyperlink recipient user operates on a computing

device physically separate from the remainder of said server system but connected through said communications network.

257. ( NEW) The method of claim 221, further comprising downloading the thin client from the server system to said at least one remote recipient user computing device.

258. ( NEW) The method of claim 257, wherein the step of downloading the thin client occurs only after said at least one remote recipient user computing device is examined and found not to already have the thin client available.

259. ( NEW) The method of claim 221, further comprising the step of determining whether said hyperlink is still active or enabled and wherein the step of opening the computer file occurs only if said hyperlink is active or enabled.

260. ( NEW) The method of claim 221, wherein changes are made to the computer file after the hyperlink is created, and the hyperlink remains associated with the latest version of the computer file.

261. ( NEW) The method of claim 221, further comprising operating the application program on the remote computer after the activation of the hyperlink is detected.

262. ( NEW) The method of claim 221, wherein the selection of said file compatible application is based on criteria comprising data selected from the group consisting of:

- (a) information about optimum applications for viewing of said file;
- (b) information about optimum applications for manipulation of said file;
- (c) said recipient user's legal rights to use available file compatible applications; and
- (d) usage permissions associated with said available file compatible applications.

263. ( NEW) The method of claim 262, wherein the recipient user's legal rights are established by criteria comprising:

- (a) providing valuable consideration from said recipient user in exchange for rights to use said available file compatible application;
- (b) providing information authenticating the recipient user's legal rights to use said available file compatible applications; and
- (c) executing an agreement conferring rights to use said available file compatible application.

264. ( NEW) The method of claim 221, further comprising the steps of:

- (a) providing a user group comprising at least one member user with access to an email account;
- (b) intercepting all incoming emails for said user group prior to delivery to the email accounts of the at least one member user of said user group;
- (c) screening said incoming emails for attached data files,
- (d) removing said attached data files and storing said attached data files on the said computer server system;
- (e) creating an application file hyperlink to said attached data files;
- (f) appending said application file hyperlink to an incoming email to which said attached data file had been attached;
- (g) forwarding said incoming email without the attached file to the intended member user's email account; and
- (h) said member user accessing said attached data file by activating said application file hyperlink.

265. ( NEW) The method of claim 264, further comprising the step of centrally setting parameters of the file access and manipulation restrictions for said user group.

266. (NEW) The method of claim 221, further including the steps of:

- (a) providing a user group consisting of at least one member user with access to an email account;
- (b) intercepting all outgoing emails for said user group;
- (c) screening said outgoing emails for attached data files;
- (d) removing the attached data file from the outgoing email and storing said attached file on the server;
- (e) creating an application file hyperlink to said attached files;
- (f) appending said hyperlink to said outgoing email;
- (g) forwarding said incoming email without the attached file to its intended recipient's email account; and
- (h) accessing said attached file by activating said application file hyperlink.

267. (NEW) The method of claim 221, wherein the recipient user's file access and manipulation restrictions are variable.